

### REMARKS

The above-identified application is a continuation prosecution application pursuant to 35 U.S.C. §1.53(d) of application no. 09/541,873, filed on April 3, 2000, which in turn is a continuation of application no. 08/456,864, filed on March 17, 1999, now issued as U.S. Patent 6,057,288, which in turn is a continued prosecution application of application no. 08/456,864, filed on June 1, 1995 (the parent application), now abandoned, which in turn is a divisional application of application no. 08/104,487, filed on August 9, 1993 (the grandparent application), now issued as U.S. Patent 5,591,872.

An Amendment and Response was filed in application serial no. 09/541,873 on July 11, 2001. In the amendment, claim 1 was cancelled without prejudice and new claims 44-53 were added. However, in the Office Action dated October 19, 2001, claims 44-53 were withdrawn from consideration as directed to constructively non-elected subject matter inasmuch as claim 1 had been examined on the merits.

Accordingly, the instant continued prosecution application is filed in order to prosecute non-elected subject matter originally claimed in the grandparent application but subject to restriction requirements in the grandparent and parent applications. In this regard, the Examiner's attention is invited to Box No. 2 of the continued prosecution application transmittal filed on even date herewith.

Further in the event that claims 44-53 were not entered into application no. 09/541,873, this Preliminary Amendment is filed to present claims 44-53 for examination. Thus, claim 1 has been canceled without prejudice or disclaimer and claims 44-53 have been added.

Claims 44 and 45 correspond to claims 26 and 27, respectively, as originally filed in the grandparent application. Claims 46-48 and 51-53 correspond to claims 33-38, as originally filed in the grandparent application. Claims 49 and 50 have been added as

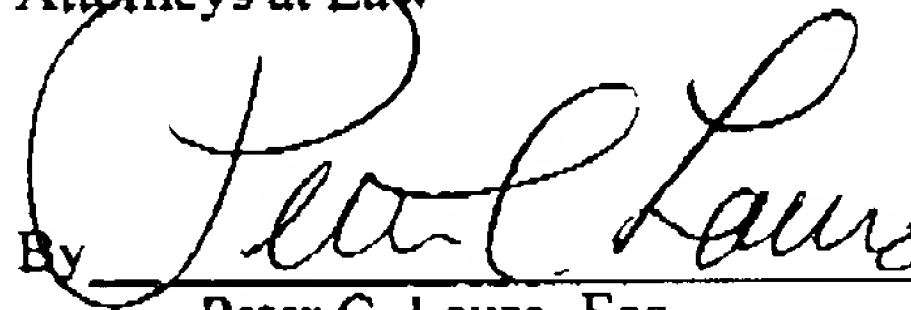
dependent claims. Support for claim 49 can be found at least, for example, on page 7, lines 20-24, in the specification as filed. The compound of claim 50 is a species of the general formula noted in claim 49, support for which can be found at least, for example, on page 2, line 6, of the specification. No new matter has been added.

Applicants respectfully request that this Preliminary Amendment be entered into the record of the application. For the Examiner's convenience, the claims that will be pending in the application upon entry of the instant Amendment are set forth in the attached Appendix A.

If a telephone conversation with Applicants' attorney would expedite the prosecution of the application, the Examiner is invited to call the undersigned at (617) 227-7400.

Respectfully submitted,

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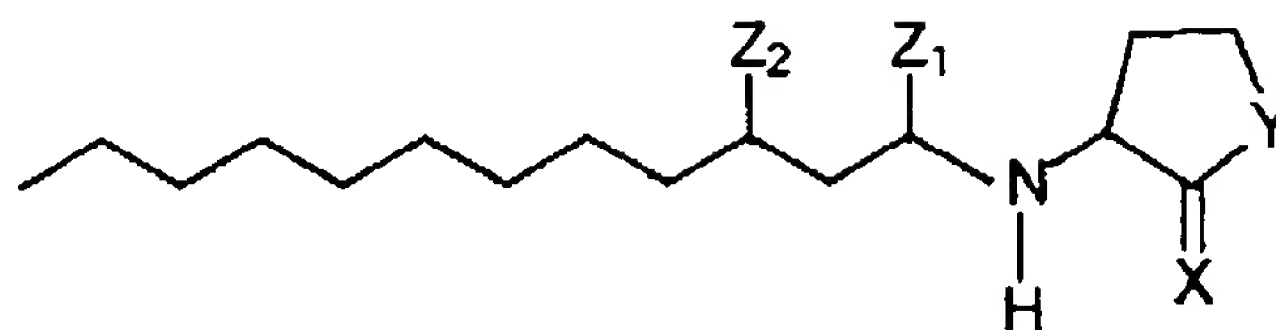
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**APPENDIX A**

44. (New) A method of selecting inhibitors of the autoinducer molecule of *Pseudomonas aeruginosa* comprising:  
contacting the autoinducer molecule with a suspected inhibitor;  
measuring the ability of the treated autoinducer molecule to stimulate the activity of a selected gene;  
determining whether the suspected inhibitor inhibits the ability of the autoinducer molecule to stimulate the activity of a selected gene; and  
selecting the suspected inhibitors that inhibit the autoinducer molecule.
45. (New) A method of selecting synergists of the autoinducer molecule of *Pseudomonas aeruginosa* comprising:  
contacting the autoinducer molecule with a suspected synergist;  
measuring the ability of the treated autoinducer molecule to stimulate the activity of a selected gene;  
determining whether the suspected synergist enhances the ability of the autoinducer molecule to stimulate the activity of a selected gene; and  
selecting the suspected synergists that enhance the activity of the autoinducer molecule.
46. (New) A culture medium containing as an added compound N-(3-oxododecanoyl)homoserine lactone at a concentration effective to stimulate or promote cellular metabolism, growth, or recovery.
47. (New) The culture medium of claim 46 wherein the cellular growth of *Pseudomonas aeruginosa* is stimulated or enhanced.
48. (New) A method of regulating the expression of a gene comprising:  
inserting a gene into bacteria chosen for enhancement of gene expression by an agent that enhances the activity of the LasR protein; and  
incubating the bacteria with an agent that enhances the activity of the LasR protein such that the expression of the gene is regulated.
49. (New) The method of claim 48, wherein the agent is a compound of the following formula:



wherein Y is O, S, or NH; X is O, S, or NH; and Z<sub>1</sub> and Z<sub>2</sub> are independently selected from the group consisting of hydrogen =O, =S, and =NH; the molecule being able to regulate gene expression.

50. (New) The method of claim 48, wherein the agent is N-(3-oxododecanoyl)homoserine lactone.

51. (New) The method of claim 48 wherein the method further comprises the additional steps of:

allowing the gene expression to reach a desired level; and  
incubating the bacteria with an agent that inhibits the activity of the LasR protein regulating the gene expression by the bacteria.

52. (New) A method of regulating the expression of a gene comprising:  
inserting a gene into a cell chosen for enhancement of gene expression by N-(3-oxododecanoyl)homoserine lactone; and  
incubating the cell with N-(3-oxododecanoyl)homoserine lactone such that the expression of the gene is regulated.

53. (New) The method of claim 52 wherein the method further comprises the additional steps of:

allowing the gene expression to reach a desired level; and  
incubating the cell with an agent that inhibits the activity  
N-(3-oxododecanoyl)homoserine lactone regulating the gene expression by the cell.